

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SANG HOO DHONG and JOEL ABRAHAM SILBERMAN

Appeal No. 2001-1571
Application No. 09/062,002

ON BRIEF

Before THOMAS, BARRETT, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-10, which are all the claims in the application.

We reverse.

BACKGROUND

The invention relates to a method and system for accessing a cache memory within a data processing system. Representative claim 1 is reproduced below.

1. A method for accessing a cache memory within a data processing system utilizing an effective address, wherein said effective address includes a byte field, a line field, and an effective page number field, wherein said cache memory includes a memory array along with a directory and a translation lookaside buffer, said method comprising the steps of:

providing a translation array that includes an identical number of rows as in said translation lookaside buffer, and an identical number of array entries within each row as the product of cache lines per page of a system memory and an associativity of said cache memory; and

in response to a cache access by an effective address, determining whether or not said cache memory stores data associated with said effective address utilizing said translation array.

The examiner relies on the following references:

Brenza	4,797,814	Jan. 10, 1989
Martens et al. (Martens)	5,970,512	Oct. 19, 1999 (filed Mar. 27, 1997)

Claims 1-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Martens and Brenza.

We refer to the Final Rejection (Paper No. 6) and the Examiner's Answer (Paper No. 13) for a statement of the examiner's position¹ and to the Brief (Paper No. 11) and

¹ The Answer refers to the rejection set forth in the non-final action, "Paper No. 4." However, the rejection was repeated and made final in Paper No. 6.

the Reply Brief (Paper No. 14) for appellants' position with respect to the claims which stand rejected.

OPINION

With respect to the two independent claims on appeal (1 and 6), the rejection contends that Martens teaches all the subject matter except "an array of entries within each row as recited in the claims." (Final Rejection at 4.) Appellants respond (Brief at 6-7) that Martens does not teach all the features attributed to the reference. Appellants submit that the examiner has not shown where Martens teaches the claimed "translation array."

The examiner responds, in the "Response to Argument" section of the Answer, by pointing to material in column 1 of Martens. The statement of the rejection (Final Rejection at 3) also points to column 1 of the reference for details of the "translation array." However, we observe that column 1 relates to a description of "related art," and speaks in general terms of the operation of translation caches. The section does not detail operation of a translation cache in relation to Marten's "adder/decoder" 200 (col. 5, ll. 17-35; Fig. 2), upon which the rejection appears to rely.

Martens at column 1, lines 46 through 48 might serve as evidence that the terms "translation array" and "translation lookaside buffer" may be used interchangeably in the art. However, the claims require combination of both a "translation array" and a "translation lookaside buffer." Even if the terms might be recognized as referring to

substantially the same type of structure, there still must be a showing of a suggestion, at the least, to use two distinct structures in the manner required by the claims.

We thus agree with appellants that the rejection fails to set forth a case for prima facie obviousness with respect to independent claims 1 and 6 by reason of the deficiency in accounting for the specifics of all the claim limitations. As such, the burden has not shifted to appellants to provide evidence in rebuttal. We note, however, that appellants refer to a declaration of record filed under “37 C.F.R. § 1.131” [sic; 37 CFR § 1.132] by a co-inventor of the invention described by the Martens reference. The declaration at page 2, paragraph 5, reflects an assumption that the rejection reads the “translation array” on instruction MMU 114 and/or data MMU 116 (Figure 1) of Martens, or some portion thereof. This assumption may have been made due to the statement of the rejection (Final Rejection at 3) referring to structures 126 and 128 (contained within MMU 114 and MMU 116, respectively) as “translation lookaside buffers.”

The examiner’s response to the declaration, in the penultimate page of the Answer, consists of expressing the opinion that the declaration does not explain why the Martens invention and the instant invention are thought to be different. Since the examiner does not respond to the substance of the declaration (e.g., by clarifying whether the assumption that something within MMU 114 and/or MMU 116 corresponds to the claimed “translation array” is correct or incorrect) we are left to speculate, as are

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appellants, with respect to how the applied references are deemed to provide evidence of the obviousness of the claimed invention as a whole.

We therefore do not sustain the rejection of claims 1-10 under 35 U.S.C. § 103 as being unpatentable over Martens and Brenza.

CONCLUSION

The rejection of claims 1-10 under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS
Administrative Patent Judge

LEE E. BARRETT
Administrative Patent Judge

HOWARD B. BLANKENSHIP
Administrative Patent Judge

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